Journal of Forensic and Legal Medicine 20 (2013) 1048–1051

Contents lists available at ScienceDirect

Journal of Forensic and Legal Medicine

journal homepage: www.elsevier.com/locate/jflm

Clinical practice

A study of psychiatry morbidity and co-morbid physical illness among convicted and awaiting trial inmates in Jos prison

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ARTICLE INFO

Article history:
Received 18 March 2013
Accepted 6 August 2013
Available online 4 October 2013

Keywords:
Psychiatric morbidity
Co-morbidity
Prison
Convicted
Physical illness
Awaiting trial

ABSTRACT

Background: Having a psychiatric diagnosis is still considered a major burden in life. In addition to dealing with stigma regarding mental illness, persons with severe mental illness have an added risk of having co-morbid medical illnesses that can further impair their already turbulent life. The importance of detecting co-morbid medical illnesses is to ensure a holistic treatment. This study assessed the prevalence of psychiatric morbidity and co-morbid physical illness among convicted and awaiting trial inmates in Jos prison.

Method: A cross-sectional, descriptive study was carried out among 608 male inmates in Jos maximum security prison, Plateau State, Nigeria. They were screened with self administered GHQ-28 questionnaire and interviewed using CIDI.

Results: More than half (57%) of the studied subjects had a psychiatric disorder with substance use disorder as the commonest (48.7%) diagnosis. Physical co-morbidity was found in (18%) of the subjects with infectious disease (A00–A99) as the commonest source 13 (3.7%) of physical co-morbidity among the subjects. A statistically significant relationship was found between psychiatric disorder and co-morbid physical illness ($p = 0.000$).

Conclusion: The study showed a high rate of psychiatric morbidity and co-morbid physical illness with infectious disease being the commonest source of physical co-morbidity; and substance use disorder the commonest psychiatric disorder among the prison inmates.

1. Introduction

Psychiatric disorders and co-morbid physical illnesses are common occurrences in the general population. In primary care, surveys have consistently found that patients identified as suffering from psychiatric disorders also have high rates of physical co-morbidity.[1]

About 15 years ago, it was established that 60 percent of individuals with mental illness developed serious medical co-morbidities that resulted in a lost life span of 15–20 years compared to the general population.[2] However, recently, even more alarming evidence indicates the risk for lost years of life has accelerated to 25 years earlier than the general population.[3] These medical problems may be due to the mental illness itself as well as the adverse effects of medications used in the treatment. Medical co-morbidities such as cardiovascular disease, respiratory disease, diabetes mellitus and infectious disease would further contribute to their shortened life-span.

A study from England and Wales reported that prisoners with significant neurotic symptoms were more likely than other inmates to report physical complaints. Physical illness is more common among people who have drug problems, especially those in dependency state.[4]

Psychiatric disorder in patients with chronic medical conditions is associated with worse quality of life.[5] Severe conditions are likely to require psychiatric treatment and may carry a risk of suicide. Moderately severe disorder may also require treatment and if it persists, may delay recovery from the physical illness.

Psychiatric disorder may be a cause of poor compliance to medical treatment and excessive or inappropriate use of medical services. The possibility that a psychiatric disorder may interfere with recovery from physical illness was suggested by the finding of Querido who studied 1630 patients in a general hospital. He found

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http://dx.doi.org/10.1016/j.jflm.2013.08.002

that medical outcome seven months later was significantly worse in patients who had more psychiatric symptoms at the time of the original illness.[6]

There is paucity of studies on psychiatric morbidity and co-morbidity physical illness in Nigerian. Reports show that psychiatric disorder in patients with chronic medical conditions is associated with worse quality of life[4] hence the need for more studies in this field of psychiatry. This study was carried out to assess the prevalence of psychiatric and physical co-morbidity among convicted and awaiting trial inmates in Jos prison. Also to assess the relationship between psychiatric morbidity and co-morbid physical illness.

2. Methodolody

A cross-sectional study was carried out among 608 convicted and awaiting trial male prison inmates. The study was conducted in two stages. The first stage was the administration of the socio-demographic and forensic questionnaire alongside the General Health Questionnaire-28 screening questionnaire (GHQ-28).

In the second stage, subjects with a GHQ-28 score of four[4] and above were administered the Composite International Diagnostic Interview (CIDI) which took the form of a clinical interview.

The history and detailed physical examination was carried out using PULSES profile as a guide to elicit any history of past or present physical illness. Subjects with evidence of physical co-morbidity were classified under the broad categories of ICD-10.

Data was analysed using the Statistical Package for Social Sciences (SPSS) version 15.0. Frequency counts and chi square were used for categorical variables. Continuous variables were analysed by mean, and a probability of 5% was regarded as statistically significant.

3. Results

3.1. Socio-demographic characteristics of the subjects

All the subjects (608) were male (365 awaiting trial and 243 convicts) aged between 18 and 70 years with mean age of 32.1 ± 10.6 years. Almost half of the subjects (49%) were young offenders aged between 25 and 34 years, with 13 (2.1%) aged 65 years and above [Table 1].

About a quarter of the subjects (23.8%) had completed secondary school education and only (2.5%) were university graduates. Two hundred and seventy seven (45.5%) were unemployed before imprisonment, while 152 (25%) who were employed before imprisonment using the International Labour Organisation (UNO/ILO) classification of occupation (42%) were peasant farmers (Major group 4). Six hundred (98.7%) of the subjects were Nigerians of different ethnic background and 8 (1.3%) were other Nationalities. The majority of the subjects was Christians 392 (64.5%), 209 (34.4%) Muslims, while 7 (1.2%) practice traditional religions [Table 1].

3.2. Psychiatric morbidity in the subjects

There was a high prevalence of psychiatric morbidity in the prison (57%). The commonest diagnosis was Substance Use Disorder found in (48.7%) of subjects. Depressive disorder accounted for 30.8%: all of the cases had mild or moderate depression and none had a severe depressive disorder among the studied subjects [Table 2].

Table 1
Sociodemographic and forensic characteristics of subjects.

$N = 608$			
Variables	Frequency	Percentage	Mean + SD
Age group (years)			
15–24	133	21.9	
25–34	298	49.0	
35–44	109	17.9	32.1 ± 10.6
45–54	35	5.8	
55–64	20	3.3	
>65	13	2.1	
Religion			
Christianity	392	64.5	
Islam	209	34.3	
Traditional	7	2.1	
Nationality			
Nigerian	600	98.7	
Others	8	1.3	
Marital status			
Married	210	34.5	
Separated	47	7.7	
Widowed	7	1.2	
Divorced	19	3.1	
Single	325	53.5	
Educational status			
No formal education	108	17.8	
Primary	134	22.0	
Secondary	286	47.0	
Tertiary	80	13.2	
Employment status			
Unemployed	277	45.5	
Employed	152	25.0	
Students	104	17.1	
Others	75	12.4	
Prison sentence category			
Awaiting trials	365	60.0	
Convicted	243	40.0	
Duration of stay in prison (months)			
≤60	457	75.2	
61–180	123	20.2	42.9 ± 65.6
181–360	28	4.6	
Offence charged			
Murder	106	17.4	
Manslaughter	33	5.4	
Armed robbery	229	37.7	
Others	240	39.5	

3.3. Prevalence and types of co-morbid physical illness among subjects

The prevalence of co-morbid physical illness was found in 63 (18%) of the studied subjects [Table 3]. Infectious diseases (A00–A99) were the most common sources 13 (3.74%) of physical co-morbidity among the subjects. Diseases of the musculoskeletal system (M00–M99) ranked second with 12 (3.45%). One inmate however had disease of two systems (Respiratory and Circulatory) [Table 3].

Table 2
Composite International Diagnostic Interview (CIDI) Diagnosis of subjects.

$N = 347$		
Type	Frequency	Percentage
Depression (D)	107	30.8
Generalised anxiety disorder (G)	41	11.8
Panic disorder (P)	21	6.1
Psychosis (PS)	4	1.2
Substance use disorder (SUD)	169	48.7
Mania (M)	2	0.6
Intermittent explosive disorder (IED)	2	0.6
Depression/substance use disorder	1	0.3

Table 3
Co-morbid physical illness of subjects.

$N = 347$		
Types of physical illness	Frequency	Percentage
Diseases of musculoskeletal system (M00–M99)	12	3.45
Diseases of the eye (H00–H95)	5	1.44
Diseases of the ear and mastoid process (H60–H95)	9	2.59
Diseases of circulatory system (I00–199)	10	2.88
Diseases of respiratory system (J00–J99)	8	2.30
Diseases of endocrine system (E)	4	1.15
Infectious diseases (A)	13	3.74
Diseases of digestive system (K)	1	0.3
Diseases of respiratory/circulatory system	1	0.3

3.4. Relationship between physical co-morbidity and psychiatric morbidity in studied subjects

A statistically significant association was found between psychiatric morbidity and co-morbid physical illness in the subjects ($p = 0.000$) [Table 4] [Of the 84 subjects with physical morbidity in the prison, 63 had a psychiatric diagnosis and hence have a co-morbid illness].

4. Discussion

The majority of the inmates studied was young males, single, with low educational achievement. The age bracket 25–34 years constituted nearly half of those studied. This conforms to the findings of some Nigerian studies that found preponderance of young adults who were single.[7,8]

Most of the subjects were Christians (64.5%). Though the prison is a maximum security prison with inmates from different parts of the country, most of the subjects were from the immediate environment which has a predominant Christian population. This conforms to the findings in a southern Nigerian study but not in conformity with another study conducted in Northern Nigeria where most of the subjects were Muslims.[9,10]

About half of the inmates (45.6%) were unemployed as at the time of offence while only 25% were employed before imprisonment. Of the total number of studied subjects with employment, 26.3% were farmers who are in Group 4 of the International Labour Organisation of Occupation (UNO/ILO). This is in agreement with the findings of studies conducted in Nigeria and Kenya.[7,11]

In this study more than half of the subjects (57%) had a psychiatric morbidity. The finding is in conformity with findings of a study in Nigeria where (83.7%) of the studied subjects had definite diagnosis of psychiatric disorders on CIDI. Studies from Australia, Iran and other parts of the world also found psychiatric morbidity in 80%, 57%, 55.4%, 51.4% and 43% of the studied subjects respectively using standardised instruments.[10,12–16]

A study in Spain looked at somatic and psychiatric co-morbidity in primary care patients. A representative sample of 1559 adult patients was examined in a two phase screening. They found out that most co-morbid cases had depressive (120 cases, 28.1%) or anxiety/neurotic disorders (217, 50.9%). The proportion of patients with severe medical diagnosis was significantly higher among the cases.[17]

Table 4
Relationship between psychiatric morbidity and co-morbid physical illness.

Co-morbid physical illness			
$N = 608$			
Psychiatric disorder	Present	Absent	Total
	Frequency (%)	Frequency (%)	
Present	63 (18.2)	284 (81.8)	347 (100)
Absent	21 (8.0)	240 (92.0)	261 (100)

$X^2 = 12.79$; df $= 1$; $p = 0.000$.

Another study on psychiatric morbidity in older prisoners in United Kingdom found only 18% of those with psychiatric diagnosis were prescribed medication from the appropriate class. Physical problems were also common in this population with an average self-report of 2.26 problems per prisoner.[18]

An Australian study on adult prisoners to compare their physical health status with and without a mental illness found that men and women with a mental illness had lower scores on SF-36 compared with those without a mental illness indicating poor overall health.[12]

A Nigerian study in a prison community found that 15% of the subjects had ongoing medical and surgical problems. Reported that the disease of the gastro-intestinal tract (peptic ulcer and inguinal hernia) was the most common physical illness followed by the disease of the eye.[7]

The physical illnesses were grouped under the broad category of ICD-10. Infectious diseases were the most prevalent co-morbid physical illness in the study which was found in (3.74%). Most of them contacted this infection (HIV) because of their risky life style, unprotected sexual exposure, and sharing of needles even though no one in the study reported intravenous substance use but it could have been concealed by the subjects. A number of them are living in congested cells with several other cell mates who might be having one form of infection or the other, which will subsequently be transmitted to some other cell mates.

Disease of the musculoskeletal system ranked second (3.45%), which was found among inmates whom were mostly older and had a longer stay in the prison. Some of them are getting old and have problems with their limbs, while others had gunshot injuries prior to imprisonment which were not properly treated, resulting in malunion of fractured bones. Disease of circulatory system ranked third (2.88%). Some of the inmates with this problem are receiving antihypertensive medication at the prison clinic.

Psychiatric morbidity and co-morbid physical illness were found to be statistically significant ($p = 0.000$). This is in synergy to the findings of a study in Nigeria.[9]

5. Conclusion

High rates of psychiatric disorder especially the mild and moderate types with associated co-morbid physical illnesses were found comparable to other prisons outside Nigeria. More attention to co-morbid physical illness is needed with the aim of reducing the suffering of the affected prisoners and consequent deterioration with poor compliance to psychotropics.

6. Recommendation

There is need for regular inter-disciplinary exchange of ideas amongst mental health personnel, members of the bar and the bench, the police and the prison warders, as well as other stakeholders in the criminal justice process. This will improve their attitudes to and techniques of dealing with the mentally ill offenders. It would also enlighten the agencies on the relevant information required (like personal background and mental antecedents) about the offenders.

7. Limitation

The Composite International Diagnostic Interview (CIDI) used for diagnosis of psychiatric disorder in this study does not have provision for making diagnosis of personality disorder which would have embellished the study.

Ethical approval

Permission was granted by the Prison Authority in Jos, Plateau State and Ethical approval obtained from the Ethical Committee of Jos University Teaching Hospital, Jos, Plateau State.

Funding

None.

Conflict of interest

No conflicts of interest associated with this work.

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